

**State of California  
Regional Water Quality Control Board  
Santa Ana Region  
May 5, 2023**

**Staff Report**

**Item: \*6**

**Subject: Waste Discharge Requirements for In-Situ Remediation of Soil and Groundwater Impacted by Chlorinated Solvents and 1,4-Dioxane Associated with the Former Weiser Lock Property, 5555 McFadden Avenue, Huntington Beach - Order No. R8-2023-0008**

**Summary**

The proposed individual waste discharge requirements (WDRs) and associated monitoring and reporting program (M&RP), established pursuant to Order No. R8-2023-0008, will authorize Masco Building Products Corporation c/o Masco Corporation (Masco) to conduct in-situ soil and groundwater remediation to address volatile organic compounds (VOCs) and 1,4-dioxane at the Site using chemical oxidation and in-situ soil stabilization (ISCO/ISS).

**Background**

The Former Weiser Lock Property (Site) is located at 5555 McFadden Avenue, in the City of Huntington Beach, County of Orange. Manufacturing of lock sets was conducted at the Site from 1975 to 1990 and prior to 1975, the Site was vacant.

Following closure of historical operation at the facility in 1990, environmental investigations identified VOCs in shallow soil and groundwater at the former steam cleaning and tank area, the former waste storage area, the former 1,1,1-trichloroethane (1,1,1-TCA) storage area, and the former vapor degreaser area (Degreaser Area). The primary contaminants of concern (COPCs) include, tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene, cis-1,2-dichloroethene, 1,1,1-TCA, 1,1-dichloroethane, vinyl chloride, and 1,4-dioxane.

A shallow (discontinuous - Upper Fine-Grained Unit [UFGU]), intermediate (45-foot sand), deep (60-foot sand) and 90-foot sand water-bearing zones (WBZs) have been identified beneath the Site. The identified WBZs include “shallow” WBZ extending from approximately from 10 to 20 feet below ground surface (ft bgs), “intermediate” WBZ extending from 20 to 45 ft bgs, “Deep” WBZ extending from 45 to 70 ft bgs, and “90-foot sand” from 80 to 100 ft bgs. Investigations at the Site indicated that the shallow,

intermediate and deep WBZs have been impacted by VOCs and 1,4-dioxane. The highest concentrations of VOCs and 1,4-dioxane in vadose zone soil and groundwater are present in the vicinity of the former Degreaser Area and beneath a building located at 5559 McFadden Avenue.

The direction of groundwater flow in the shallow WBZ is generally east-northeast. Groundwater flow in the intermediate zone groundwater is generally to the south to southwest and groundwater flow in the deep zone is generally to the south-southwest.

Therefore, ISCO/ISS has been proposed at the former Degreaser Area as an interim remedial measure (IRM) to prevent further migration of VOCs and 1,4-dioxane from the impacted vadose zone and both shallow and intermediate WBZs into groundwater.

## Discussion

The ISCO/ISS covered by this Order includes:

1. The target remediation area is approximately 3,500 square feet (sq. ft) and 25-ft deep. Individual remediation mixing cells will be approximately 100 sq. ft and 25-ft.
2. ISCO/ISS slurry mix design consists of 1 percent (%) persulfate (Klozur® SP) and 10% Portland Cement (Type I/II CEMEX) by weight. The target area will require approximately 42 tons of persulfate, 302,900 gallons of water and 420 tons of Portland Cement.
3. ODEX CA-1000 will be applied as a mist into the air at the perimeter of the work area (not into the mixing zone) to minimize dust and odors during mixing.
4. The slurry will be prepared at the batch plant by adding 50-pound bags of persulfate to water in a mixing tank. The persulfate and water mixture will then be pumped to another mixing tank where Portland Cement will be added using a hopper to activate the persulfate and provide a binder for the soils to a concentration of approximately 35 grams/liter of slurry.
5. The slurry will be applied to the mixing cells and two excavators (bucket attachment and rotary tool) will be used to mix and homogenize the soils with the slurry application.

The requirements for this ISCO/ISS program were developed based upon the proposed scope of work, background information, and site-specific data presented in: (1) the *Report of Waste Discharge* [ROWD] for “1,4-Dioxane Interim Remedial Measure Work Plan” (dated October 20, 2022) and (2) electronic submittals to Santa Ana Water Board staff between Q4 2022 and Q1 2023.

The proposed application of amendment and mixing could affect the quality of waters of the state (i.e. groundwater) and are therefore subject to waste discharge requirements (WDRs) in accordance with California Water Code (CWC) Section 13263. With the

proper management as required by Order No. R8-2023-0008, the potential effects should be localized, of short duration, and are not expected to unreasonably impair any existing or prospective beneficial uses of groundwater.

Order No. R8-2023-0008 includes WDRs to regulate the specified discharge for ISCO/ISS of VOCs and 1,4-dioxane in groundwater. The CWC Section 13263(i) and General WDRs for In-Situ Groundwater Remediation at Sites within the Santa Ana Region, Order No. R8-2018-0092, have established criteria that allow for the prescription and authorization of general WDRs. Order No. R8-2018-0092 defines Compliance Point(s) as those monitoring wells located downgradient, outside of the groundwater plume, and beyond the boundaries of a treatment zone, used for assessing the impacts to water quality and the effectiveness of the remediation. Based on: (1) the Site-specific information that has been provided; (2) the location of the former Degreaser Area relative to the southern building (i.e. limitations with the installation of monitoring wells and subsequent lateral extent of the IRM); and (3) a lack of appropriate locations to meet the specific requirements of the Compliance Points as specified in Order No. R8-2018-0092, the Santa Ana Water Board staff finds that the individual WDRs outlined by this proposed Order are necessary to regulate the discharges at the Site.

### **Recommendation**

Staff recommends that the Board adopt proposed WDR Order No. R8-2023-0008 and accept the proposed M&RP as presented in its attachment.